

Rejections under 35 U.S.C. 102(e)

Claims 1-6 stand rejected under 35 U.S.C. § 102(e) as anticipated by a U.S. Patent to Moberg, no. 6,063,059. Claims 1-6 are patentable over Moberg because Moberg does not teach a required limitation of independent claim 1, that the infusion pump's plunger rod is disengageable from the drive screw.

Moberg teaches an infusion pump used for delivering medicine to a patient from a removable, generally cylindrical medicine reservoir **406**. The pump includes a plunger **407** and a drive screw **404**. The plunger rod, which is internally threaded, mates with the drive screw, which is externally threaded (see Moberg, figures 4 and 7, and cols. 4 and 5). Moberg's plunger rod's threads always remain engaged with the drive screw threads. The motor turns the drive screw which advances the plunger rod forcing medicine out of the reservoir. The reservoir **406** is mated to the plunger slide **405** by a removable coupling. The coupling includes a female portion **424** with a cavity that is internally threaded, which receives an externally threaded male portion **426** carried by the plunger slide **405**. The reservoir is loaded by screwing the reservoir to the head of the plunger rod. First, however, the drive screw must be rotated by a number of revolutions so that the plunger rod is displaced axially towards the motor **403**.

Claim 1 of the present invention requires:

1. A drive assembly for an infusion pump, the assembly comprising:

- a. a barrel, the barrel characterized by a longitudinal barrel axis of rotation and a clearance hole in a barrel end;
- b. a rotating drive screw, the drive screw having a longitudinal screw axis and exterior threads, the screw axis displaced from and parallel to the barrel axis; and
- c. a plunger rod, the rod having threads at least part of its length, the rod inserted through the clearance hole, the rod threads removably engageable with the screw threads by rotating the barrel about the barrel axis (emphasis added).

As described above, Moberg does not teach a plunger rod that can be disengaged from the drive screw by rotating the barrel or by any other means. This teaching is required by element "c" of claim 1. Instead, Moberg teaches a plunger rod that is always engaged with the drive screw. This "disengagement" capability of plunger rod from drive screw in the embodiment of claim 1 allows the reservoir with attached plunger rod to slide out of the pump for ease of removal and to slide into the pump for ease of reservoir loading into the pump. Further, it should be noted that a result of the disengagement capability of the plunger rod from drive screw, as required in the embodiment of claim 1, is that Applicants' plunger rod need not be repositioned toward the motor by turning the drive screw repeatedly.

Since Moberg does not teach a required limitation of element "c" of claim 1 of the instant invention, Moberg cannot anticipate claim 1. For at least this reason, claim 1 is patentable over Moberg. Claims 2-6 which depend from

claim 1 and add further limitations are patentable over Moberg for at least the same reasons as for claim 1.

Rejections under 35 U.S.C. 102(b)

Claims 1-7 stand further rejected under 35 U.S.C. § 102(b) as anticipated by a U.S. Patent to Kriesel, no. 6,248,093. Claims 1-7 are patentable over Kriesel because Kriesel does not teach a required limitation of independent claim 1, that the infusion pump's plunger rod is disengageable from the drive screw.

Kriesel teaches a dispenser for injecting medicine into a patient. (See Kriesel, abstract). The dispenser contains an elastomeric energy source (e.g. **137** in figure 21) for delivering medicine at a controlled rate. (See Kriesel, abstract). In the nomenclature used by the office action, Kriesel discloses a barrel (**114**, **116**), a rotating drive screw **175**, and a plunger rod **170**. (See Kriesel, figures 21 and 34). Kriesel's plunger rod **170**, which pushes on a reservoir plunger to inject medicine into the patient, contains no threads and never contacts Kriesel's drive screw **175**. (See, e. g., top half of Kriesel figure 23). Instead, Kriesel's elastomeric energy source **137**, after stretching, propels the plunger rod **170** into contact with the plunger. The threads on Kriesel's drive screw **174** contact only body **120** that is provided with internal threads **172**. (See, Kriesel fig. 23 and col. 12, lines 15-27; note that the threads cooperate to stretch the energy source **137**).

As stated above, claim 1 requires that the rod threads be removably engageable with the drive screw threads by rotating the barrel about the barrel

axis. Since Kriesel's drive screw threads cannot engage the plunger rod threads, Kriesel fails to teach or disclose a required limitation of claim 1. Therefore Kriesel cannot anticipate claim 1.

Claims 2-6, which depend from claim 1 and add further limitations, are patentable over Kriesel for at least the same reasons as for claim 1.

Applicants request reconsideration of all pending claims and a notice of allowance. The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 19-4972. The Examiner is requested to telephone the undersigned if any matters remain outstanding so that they may be resolved expeditiously.

Respectfully submitted,



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